UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,609	07/31/2003	Laurakay Bruhn	10021296-1	5153

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EXAMINER
LIN, JERRY

ART UNIT	PAPER NUMBER
1631	

NOTIFICATION DATE	DELIVERY MODE
05/29/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/633,609	BRUHN ET AL.
	Examiner	Art Unit	
	JERRY LIN	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *10 February 2009*.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-37, 43-53 and 56-70* is/are pending in the application.

 4a) Of the above claim(s) *14-16, 20-33, 35-37, 43-48, 51-53 and 58* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-13, 34, 49, 50, 56, 57 and 59-70* is/are rejected.

7) ☒ Claim(s) *17-19* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a)☐ All b)☐ Some * c)☐ None of:

 1.☐ Certified copies of the priority documents have been received.

 2.☐ Certified copies of the priority documents have been received in Application No. _____.

 3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Applicants' arguments, filed February 10, 2009, have been fully considered and

they are not deemed to be persuasive. Rejections and/or objections not reiterated from

previous office actions are hereby withdrawn. The following rejections and/or objections

are either reiterated or newly applied. They constitute the complete set presently being

applied to the instant application.

Status of the Claims

Claims 1-13, 17-19, 34, 49, 50, 56, 57, and 59-70 are under examination.

Claims 14-16, 20-33, 35-37, 43-48, 51-53, and 58 are withdrawn as being drawn

to a non-elected invention.

Claims 38-42, 54 and 55 are cancelled.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

3.   Claims 59-62 and 65 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

The instant claims are drawn to a method of retrieving sub-array patterns.

However, as the method does not recite a physical transformation of matter, the method

must be tied to a machine to be patentable subject matter (For further explanation see,

In Re Bilski (No. 2007-10030, decided 10/30/2008)). In the instant case, the claimed

method steps are not tied to a machine, and thus are non-statutory.

Response to Arguments

4.   Applicants have responded to this rejection by amending instant claim 59 to

include a practical application. However, a computational method must still be tied to a

machine to be patentable subject matter. The instant claims are not tied to a machine,

and thus are non-statutory.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1-13, 49, 50, 56, 57, 59-63, 65, and 68 are rejected under 35

U.S.C. 102(b) as being anticipated by Kaushikkar (US 2002/0024026 A1).

The instant claims are drawn to a method using a chemical array wherein a test

request is received, a sub-array appropriate for that test request is determined,

exposing the array to a sample, and reading the sub-array.

Regarding claims 1 and 59, Kaushikkar teaches a method of using a chemical

array (page 1, paragraph 0011) that includes receiving a test request that uses a sub-

array with probes at multiple feature locations (page 6, paragraphs 0059-0061);

receiving a pattern based on the test requests which are locations of features that make

up a sub-array (page 2, paragraph 0014); exposing the array to a sample (page 3,

paragraph 0038); and reading the sub-array (page 2, paragraph 0014), wherein the test

request array references a type of test (page 10, paragraph 0089).

Regarding claims 2-13, 59, 60, 61, 65-68, Kaushikkar teaches wherein the

memory carries different patterns based on the test request (abstract; page 7,

paragraph 0063) as in claims 2 and 4; reading an array with an identifier as in claims 3,

8, 9, 10, and 61 (i.e., a bar code) (page 4, paragraph 0044); wherein signals from

feature locations outside the sub-array pattern are not acquired as in claims 5 and

65(page 2, paragraphs 0016-0017); wherein the signal that represents binding is saved

from the sub-arrays and the same signal processing method is used as in claims 6 and

12 (page 10, paragraph 0088-0090); wherein the test request is associated with the

array as in claim 7 (page 10, paragraph 0088-0090); wherein multiple test requests

associated with an array are read as in claim 11 (page 6, paragraph 0061; page 11,

paragraph 0098); wherein the locations outside the sub-array pattern are incapable of

providing signal data as in claim 13 (page 2, paragraphs 0016-0017) (i.e., portions of

the array are incapable of providing a signal data because they lack a radiation source

that is focused on them); where multiple patterns are present on a chemical array as in

claims 60 and 68 (page 6, paragraph 0061); where the patterns may be contiguous or

non-contiguous as in claims 66 and 67 (page 6, paragraph 0061).

Regarding claims 49, 50, 56, 57, and 63, Kaushikkar teaches an apparatus with an interrogating source and a detector (page 11, paragraph 0094); and a computer program to execute the instant methods (page 11, paragraph 0094).

Regarding claim 62, Kaushikkar teaches transmitting information to and from a remote location (page 7, paragraph 0063; page 9, paragraph 0083; page 11, paragraph 0092).

Response to Arguments in the Appeal Brief

7.   Applicants have responded to this rejection by stating that Kaushikkar does not teach a "test request" that "references a type of test to be performed." However, the probe locations taught by Kaushikkar contain probes (page 10, paragraph 0089) for nucleic acids or peptides. Thus, selecting one of the files by Kaushikkar determines what nucleic acids or peptides are to be tested in a sample. By selecting what nucleic acids or peptides are to be tested, Kaushikkar teaches a test request that references the type of test to be preformed.

Applicants also argue that Kaushikkar does not teach the new limitation of limiting access to feature locations outside any retrieved sub-array pattern. However, Kaushikkar teaches that locations outside the sub-array do not receive a radiation source (page 2, paragraphs 0016-0017). Since these features are not excited, the access to these locations are limited.

This rejection is maintained from the previous office action.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

9.   Claims 69 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Kaushikkar (US 2002/0024026 A1) as applied to claims 1-13, 49, 50, 56, 57, 59-

63, 65, and 68 above.

The instant claims are drawn to a method using a chemical array wherein a test

request is received, a sub-array appropriate for that test request is determined,

exposing the array to a sample, and reading the sub-array, where the sub-array

patterns may or may not overlap.

Although, Kaushikkar teaches the "user could specify the locations of a subset, or all of, the probes by specifying coordinates of each of the subset, or of all, of the probes in relation to a reference coordinate on the substrate" (page 6, paragraph 0061), Kaushikkar does not explicitly teach that the subsets may or may not overlap. However, one of ordinary skill in the art may specify any subset in an array such that subsets may or may not overlap. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to create subsets that overlap or not overlap because specifying probes that are common to two subsets is part of the ordinary capabilities of a person of ordinary skill in the art. Using the known technique of specifying common probes in two different subsets for creating the desired assay would have been obvious to one of ordinary skill.

Response to Arguments

10.   Applicants have responded to this rejection by relying on their arguments against Kaushikkar. See above for the Examiner's response.

This rejection is maintained from the previous office action.

11.   Claims 34 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaushikkar (US 2002/0024026 A1) as applied to claims 1-13, 49, 50, 56, 57, 59-63, 65, and 68 above, and further in view of Sandstrom (US 2005/0079603).

The instant claims are drawn to the same method of claim 1, wherein the feature locations outside the sub-array pattern are masked (claim 64) and the sample is from an

individual and the sub-array pattern is retrieved using the identification of the individual

(claim 34).

Kaushikkar is applied as above.

Although Kaushikkar teaches a generic method where portions of an array may

be chosen for an experiment by a user, Kaushikkar does not teach the source of a

sample or that the features outside the subarray are masked.

Sandstrom teaches a method of masking a microarray and the sample is from an

individual and a test is retrieved using the identification of the individual (page 3,

paragraphs 0022; page 9, paragraph 099; page 10, paragraph 0104).

It would have been obvious to one of ordinary skill in the art at the time of the

invention, to combine the methods of Kaushikkar and Sandstrom to gain the benefit of

being able to excite target sites. Sandstrom teaches that using a mask allows the user

to target specific sites on a microarray (page 10, paragraphs 0104, 0106). This is

advantageous because it allows the user to customize a microarray for a particular

experiment. Similarly, Kaushikkar also has a goal of customizing the use of an array

based on the user's choice. Given, that Kaushikkar's goal is to customize the use of an

array, and Sandstrom teaches a method that allows further customization, one of

ordinary skill in the art would have been motivated to combine the methods of

Kaushikkar and Sandstrom to customize an array for a particular experiment.

Furthermore, Kaushikkar teaches that one advantage of his method is that tests based

on the sub-arrays may be run without knowing the scheme of the whole array (page 1,

paragraph 0011). Given that Sandstrom teaches that tests are performed on the basis

of the individual, one of ordinary skill in the art would have been motivated to use

Kaushikkar's method of selecting sub-arrays for an individual by using just the

individual's identification and not to require the user to know the scheme of the array.

Response to Arguments

12.   Applicants have responded to this rejection by relying on their arguments against

Kaushikkar. See above for the Examiner's response.

        This rejection is maintained from the previous office action.

Objections

13.   Claims 17-19 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Note

14.   The Examiner acknowledges that Applicants have pointed out that claims 56, 57,

and 63, which are drawn to computer program products, are described in the

specification, on page 8, lines 12-18, as tangible products such as floppy disks, hard

disks, CDs, and DVDs,

Conclusion

        THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JERRY LIN whose telephone number is (571)272-2561.

The examiner can normally be reached on 7:00-5:30pm, M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Marjorie A. Moran can be reached on (571) 272-0720. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry Lin/
Examiner, Art Unit 1631
5/24/09